

EMI TEST REPORT

On Model Name: IP Camera

Model Number: GXV3674_HD_VF, GXV3674_FHD_VF

Brand Name: Grandstream

Prepared for Grandstream Networks, Inc.

FCC ID Number: YZZGXV3674-FHD

According to FCC 47 CFR Part 15, Subpart B

Test Report #: SHE-1403-11133-FCC

Tested by: Daomen Galanz
Daomen /Engineer Company Name

Reviewed by: Jawen Yin ECMG
Jawen Yin/ Senior Engineer Company Name

QC Manager: Swall Zhang ECMG
Swall Zhang/QC Manager Company Name

Test Report Released by: Swall Zhang May 28th, 2014
Swall Zhang Date

Test Location

Tests performed in a Certified ANSI Semi-Anechoic Chamber and Shielded Room.

Test Site Location : Galanz

*25 South Ronggui
Rd., Shunde,
Foshan, Guangdong, China*

Tel : (86)-757-23612785

Fax : (86)-757-23612537

Test Facility

The test facility was recognized, certified, or accredited by the following organizations:

- *CNAL – LAB Code: L2244
Galanz EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.*
- *FCC – Registration No.: 580210
Galanz EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC was maintained in our files.*
- *IC – Registration No.: 8801A
The Laboratory is registered to perform emission tests with Industry Canada (IC), and the registration number is 8801A.*

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List Attached Files

<i>Exhibit Type</i>	<i>File Description</i>	<i>File Name</i>
<i>Test Report</i>	<i>Test Report</i>	<i>YZZGXV3674-FHD _Test report.pdf</i>
<i>Operation Description</i>	<i>Technical Description</i>	<i>YZZGXV3674-FHD _operation description.pdf</i>
<i>External Photos</i>	<i>External Photos</i>	<i>YZZGXV3674-FHD _External Photos</i>
<i>Internal Photos</i>	<i>Internal Photos</i>	<i>YZZGXV3674-FHD _Internal Photos</i>
<i>Block Diagram</i>	<i>Block Diagram</i>	<i>YZZGXV3674-FHD _Block Diagram.pdf</i>
<i>Schematics</i>	<i>Circuit Diagram</i>	<i>YZZGXV3674-FHD _Schematics.pdf</i>
<i>ID Label/Location</i>	<i>Label and Location</i>	<i>YZZGXV3674-FHD _Label & Location.pdf</i>
<i>User Manual</i>	<i>User Manual</i>	<i>YZZGXV3674-FHD _User Manual.pdf</i>
<i>Test setup photos</i>	<i>Test set-up photos</i>	<i>YZZGXV3674-FHD _Test Set-up Photos</i>

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Opinions and Interpretations

This test report relates to the abovementioned equipment under test (EUT). Without the permission of ECMG Electronic Technical Testing Corp (Shenzhen) Test Lab this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark on this or similar products. The manufacturer has sole responsibility of continued compliance of the device.

Statement of Measurement Uncertainty

The data and results referenced in the document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities that can account for a nominal measurement error. Furthermore, component and process variability of devices similar to that tested may result in additional deviation.

Administrative Data

Test Sample : *IP Camera*

Model Numbers : *GXV3674_HD_VF, GXV3674_FHD_VF*

Model Tested : *GXV3674_FHD_VF*

Date of Received : *May 18th, 2014*

Date Tested : *May 20th, 2014*

Applicant : *Grandstream Networks, Inc.*

Address : *5F, Bldg #1, No.2 Kefa Rd., Science & Technology Park, Shenzhen, China*

Telephone : *(86)-755-26014600*

Fax : *(86)-755-26014601*

Manufacturer : *Grandstream Networks, Inc.*

Address : *5F, Bldg #1, No.2 Kefa Rd., Science & Technology Park, Shenzhen, China*

Telephone : *(86)-755-26014600*

Fax : *(86)-755-26014601*

Factory : *Grandstream Networks, Inc.*

Address : *5F, Bldg #1, No.2 Kefa Rd., Science & Technology Park, Shenzhen, China*

Telephone : *(86)-755-26014600*

Fax : *(86)-755-26014601*

EUT Description

Grandstream Networks, Inc. Model Tested GXV3674_FHD_VF (referred to as the EUT in this report) is an IP Camera.

Technical specifications are as follows:

Parameter		Ranges
Basic parameters	Rated voltage	12V
	Rated Current	1A
I/O Ports	Network Port	RJ-45 Ethernet cable to power over Ethernet (POE)switch
	Power Jack	12V DC power port; UL Certified
Power Adapter #1	Input	100-240VAC 50/60Hz 0.3A
	Output	12VDC,1.0A
	Model	SEF1200100A1BB
	Brand name	Mass power
Power Adapter #2	Input	100-240VAC 50/60Hz 0.3A
	Output	12VDC,1.0A
	Model	WEF1200100A1BA
	Brand name	Mass power

Note:

1. This is a Class II Permissive Change report based on original FCC ID #: YZZGXV3674-FHD, for detail information, please refer to request letter of Class II Permissive Change provided by manufacturer.
2. The EUT contains two power adapters, both of which have been tested, only the worst results (power adapter #1) are reported in this report.
3. For other information & features please refer to user's manual of EUT.

EUT Model Derived

Models of GXV3674_HD_VF and GXV3674_FHD_VF are series product. Differences between them are as follows:

GXV3674_HD_VF is HD digital which uses the DSP of DM365-300 and the Sensor of AR0130. GXV3674_FHD_VF is Full HD digital which uses the DSP of DM368-432 and the Sensor of AR0331. The others are the same. The worst-case model GXV3674_FHD_VF was selected for the final testing.

Frequency Range Of Radiated Measurements

(b) For unintentional radiators:

(1) Except as otherwise indicated in paragraphs (b)(2) or (b)(3) of this section, for an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

<i>Highest frequency generated or used in the device or on which the device operates or tunes (MHz)</i>	<i>Upper frequency of measurement range (MHz)</i>
<i>Below 1.705</i>	<i>30.</i>
<i>1.705-108</i>	<i>1000.</i>
<i>108-500</i>	<i>2000.</i>
<i>500-1000</i>	<i>5000.</i>
<i>Above 1000</i>	<i>5th harmonic of the highest frequency or 40 GHz, whichever is lower.</i>

Note: Since the highest frequency operated of the EUT is 420MHz, so upper frequency of radiated emission test is up to 2GHz as per §15.33(b)(1).

Test Summary

The Electromagnetic Compatibility requirements on model GXV3674_FHD_VF for this test are stated below. All results listed in this report relate exclusively to this above-mentioned model as the Equipment under Test. This report confers no approval or endorsement upon any other component, host or subsystem used in the test set-up.

Emission Tests				
Specifications	Description	Test Results	Test Point	Remark
FCC Part 15.107 ANSI C63.4 -2009	Conducted Emission	Passed	AC Input Port	Attachment 1
FCC Part 15.109 ANSI C63.4 -2009	Radiated Emission	Passed	Enclosure	Attachment 2

Test Mode Justification

The system was tested in IP camera and PoE operation mode.

EUT Exercise Software

No test software support this test.

Equipment Modification

Any modifications installed previous to testing by Grandstream Networks, Inc. will be incorporated in each production model sold or leased in United States.

There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen).

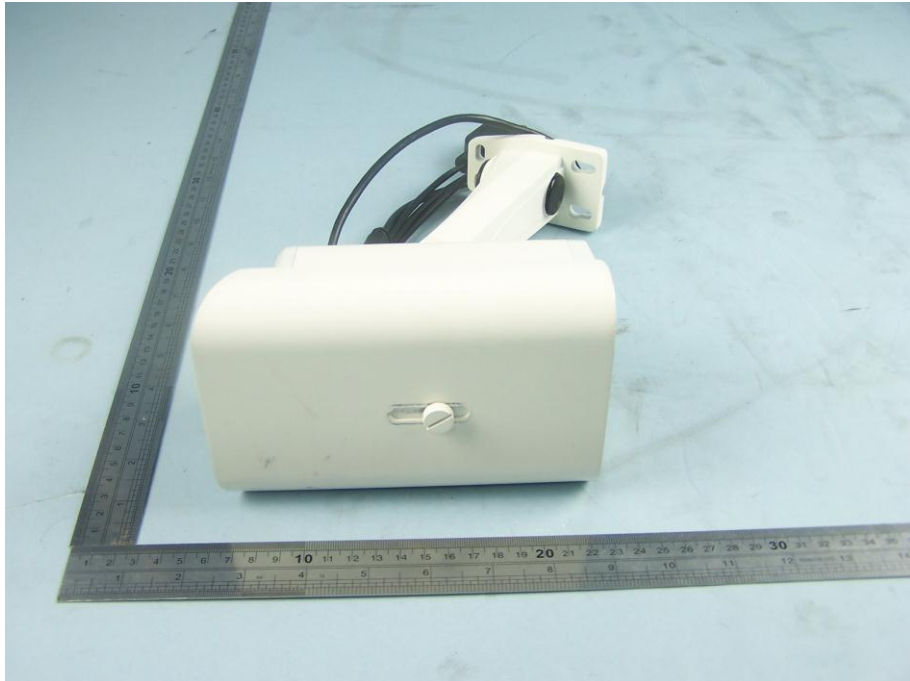
EUT Sample Photos for model GXV3674_FHD_VF



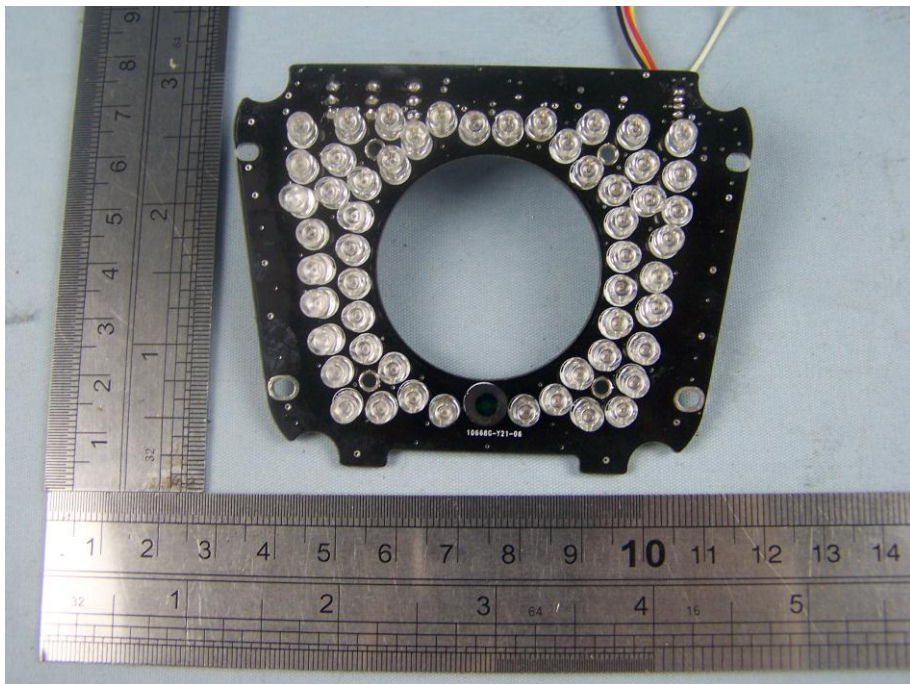
EUT- Front&Left Side View



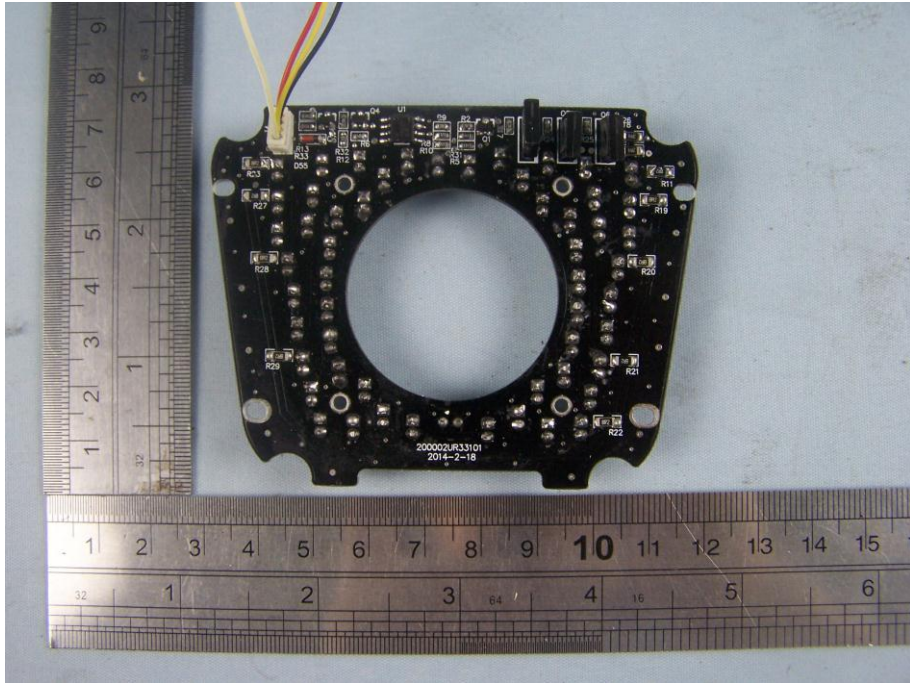
EUT- Rear&Right Side View



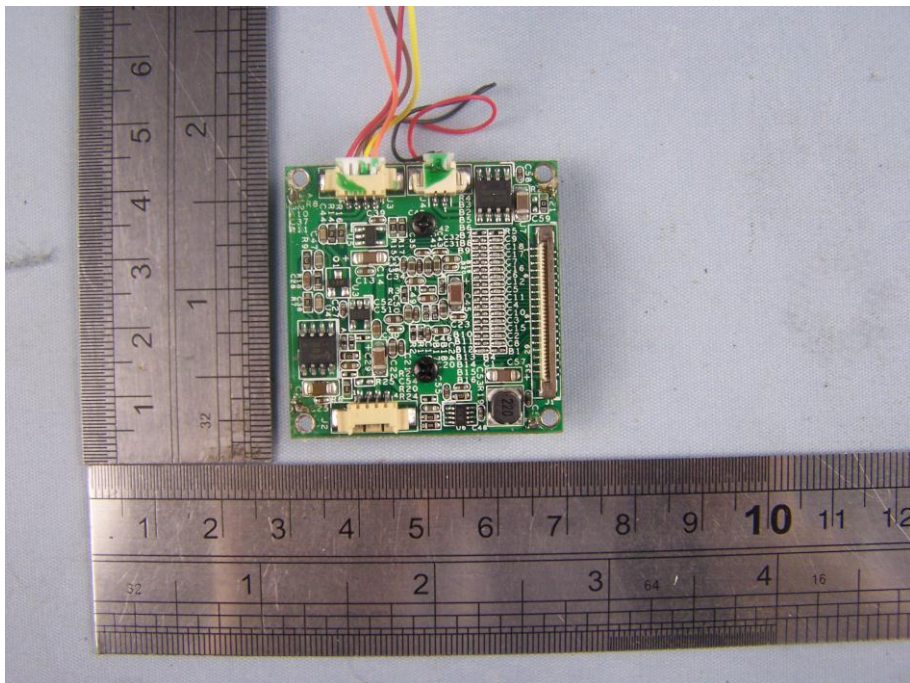
EUT- Top View



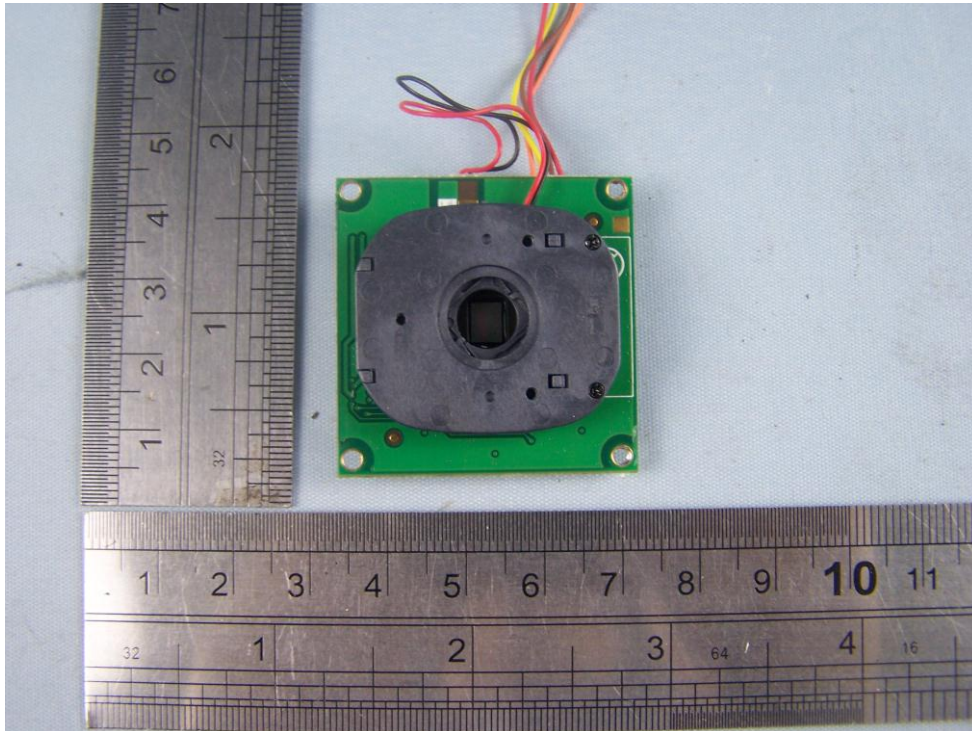
LED board- Top View



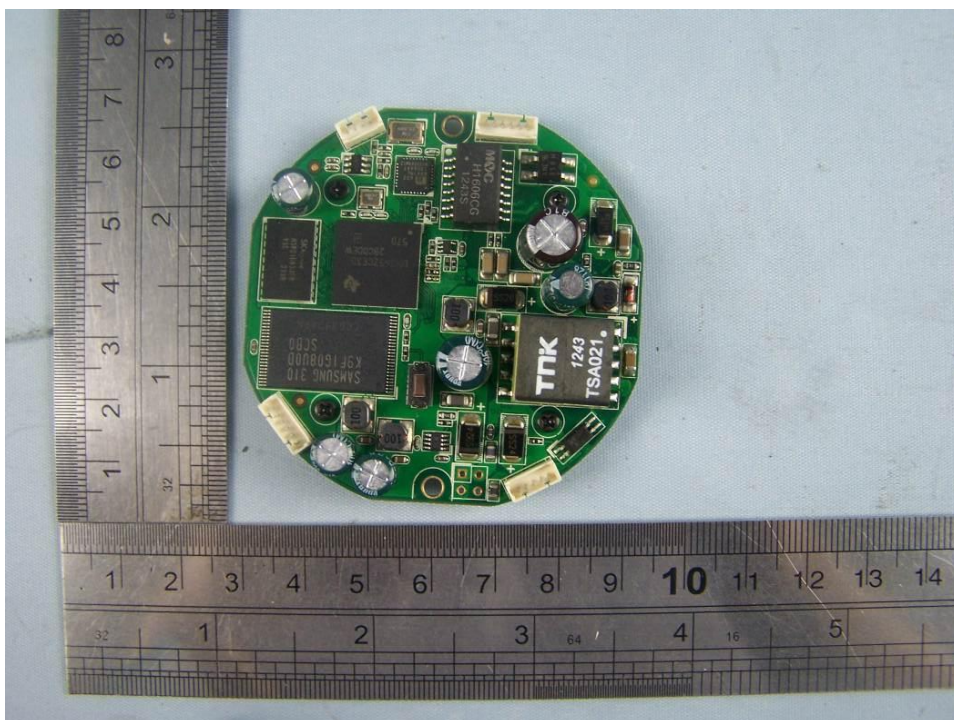
LED board- Bottom View



Sensor board - Top View



Sensor board - Bottom View



Main board- Top View



Power Adaptor View #2 (Mass Power: WEF1200100A1BA)

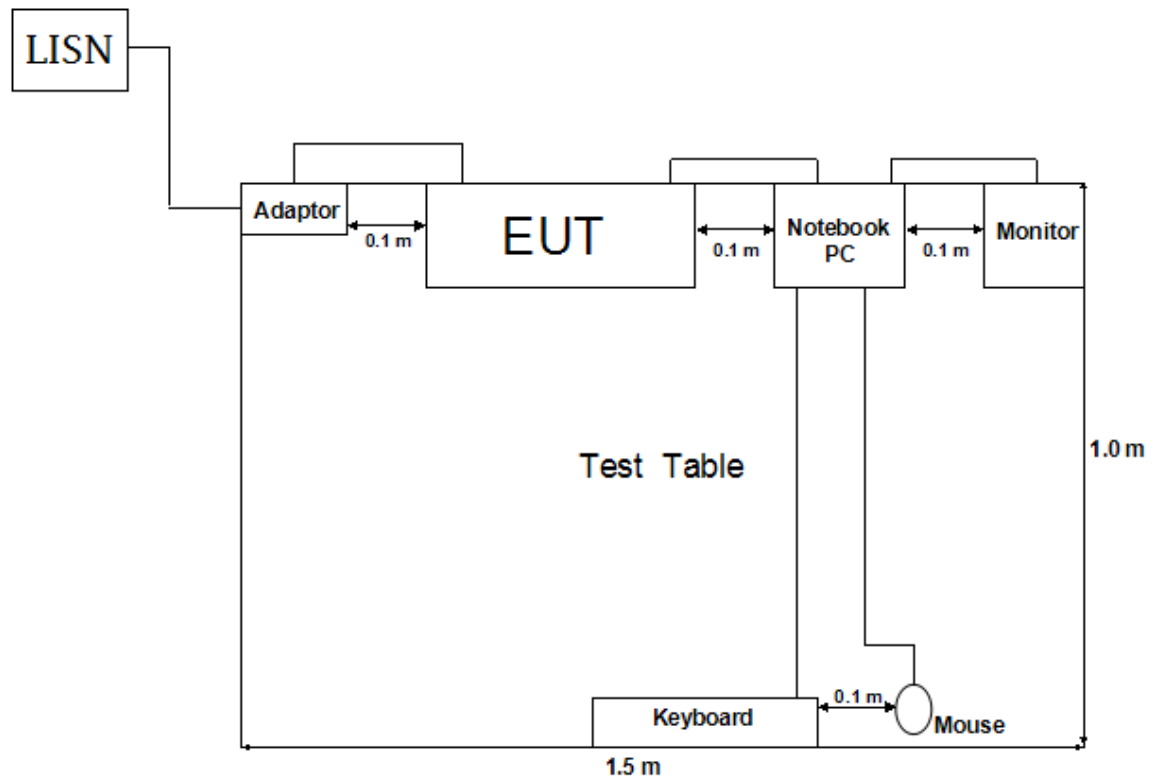
Test System Details

<i>EUT</i>			
Model Number:	GXV3674_HD_VF,GXV3674_FHD_VF		
Model Tested:	GXV3674_FHD_VF		
Description:	IP Camera		
Input:	AC 120V/60Hz		
Manufacturer:	Grandstream Networks, Inc.		
<i>Support Equipment</i>			
<i>Description</i>	<i>Model Number</i>	<i>Serial Number</i>	<i>Manufacturer</i>
<i>Notebook COMPUTER</i>	<i>ThinkPad Edge E40</i>	<i>TYPE0578-MDC</i>	<i>Lenovo</i>
<i>Mouse</i>	<i>MO32B0</i>	<i>23-033131</i>	<i>IBM</i>
<i>Keyboard</i>	<i>SK-1788</i>	<i>---</i>	<i>LENOVO</i>
<i>Monitor</i>	<i>TFT1780PS</i>	<i>---</i>	<i>AOC</i>

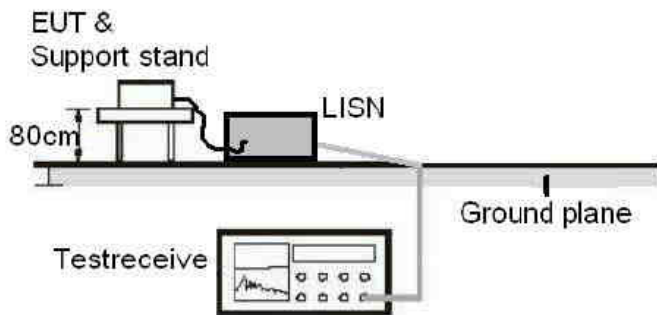
Cable Description					
Description	From	To	Length (Meters)	Shielded (Y/N)	Ferrite (Y/N)
<i>Power Adapter Cord Of Notebook Computer</i>	<i>Power Adapter</i>	<i>Notebook COMPUTER</i>	1.6	N	Y
	<i>AC Plug</i>	<i>Power Adapter</i>	1.2	N	Y
<i>Mouse Cord</i>	<i>Mouse</i>	<i>Notebook COMPUTER</i>	1.2	N	Y
<i>Keyboard Cord</i>	<i>keyboard</i>	<i>Notebook COMPUTER</i>	1.2	N	Y
<i>RJ-45 Cord</i>	<i>EUT</i>	<i>Notebook COMPUTER</i>	1.5	N	Y
<i>Power Adaptor Cord Of EUT</i>	<i>EUT</i>	<i>Plug</i>	1.8	N	Y
<i>Note: The "EUT" means "IP Camera".</i>					

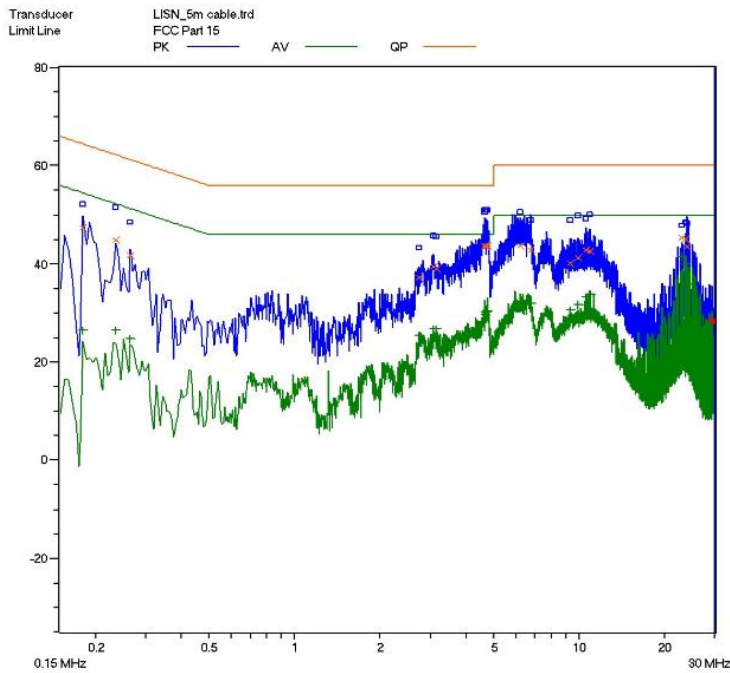
NOTE: The EUT has been tested as an independent unit together with other necessary accessories or support units. The above support units or accessories were used to form a representative test configuration during the test tests.

Configuration of Tested System

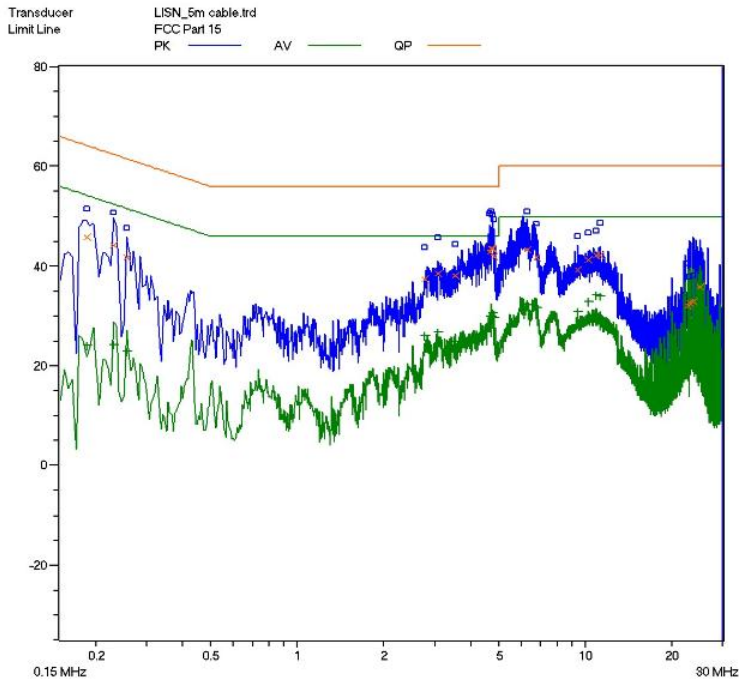


ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS

CLIENT:	Grandstream Networks, Inc.	TEST STANDERD:	FCC Part 15, Subpart B, Section 15.107
MODEL NUMBERS:	GXV3674_HD_VF,GXV3674_FHD_VF	PRODUCT:	IP Camera
MODEL TESTED:	GXV3674_FHD_VF	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	48%
ATM PRESSURE:	103kPa	GROUNDING:	None
TESTED BY:	Daomen	DATE OF TEST:	May 20, 2014
TEST REFERENCE:	ANSI C63.4- 2009		
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4: 2009 for conducted emissions. The measurement was using a AMN on each line and an EMI receiver peak scan was made at the frequency measurement range. The six highest significant peaks were then marked, and these signals were then quasi-peaked and averaged.The frequency range investigated was from 150KHz to 30MHz.		
DESCRIPTION OF TEST MODE	IP Camera		
TEST SET UP	 <p>The diagram illustrates the test setup. An EUT (Equipment Under Test) is placed on a support stand that is 80 cm high. The EUT is connected to a LISN (Line Impedance Stabilization Network). The LISN is connected to a ground plane. A Testreceiver is connected to the LISN and is displaying a waveform on its screen.</p>		
TESTED RANGE:	150kHz to 30MHz		
TEST VOLTAGE:	AC 120V/60Hz		
RESULTS:	The EUT meets the requirements of test reference for Conducted Emissions. The test results relate only to the equipment under test provided by client.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Electronic Technical Testing Corp(Shenzhen) test personnel.		
M. UNCERTAINTY:	Freq. $\pm 2 \times 10^{-7}$ x Center Freq., Amp ± 2.6 dB		



Line L Conducted Emission Graph



Line N Conducted Emission Graph

Test Data:

Lines (L/N)	Frequency (MHz)	Corrected QP Level (dBuV)	Limits QP (dBuV)	Margin QP (dB)	Frequency (MHz)	Corrected AV Level (dBuV)	Limits AV (dBuV)	Margin QP (dB)
L	4.660	43.6	56	-12.4	4.660	29.8	46	-16.2
L	4.675	43.7	56	-12.3	4.675	30.1	46	-15.9
L	4.730	43.4	56	-12.6	4.730	30.3	46	-15.7
N	0.185	45.8	64.3	-18.5	0.185	24.0	54.3	-30.3
N	0.230	44.2	62.4	-18.2	0.230	24.3	52.4	-28.1
N	0.255	41.7	61.6	-19.9	0.255	23.0	51.6	-28.6

Note :

- 1) All readings are using a bandwidth of 9 kHz, with a 500ms sweep time. A video filter was not use.
- 2) "QP" means "Quasi-Peak" values, "AV" means "Average" values.
- 3) The other reading are too low against official limits that are not be recorded.

Test Equipment List:

Test Equipment	Model No.	Manufacturer	Serial No.	Last Cal.	Cal. Interval
Receiver	SMR4503	SCHAFFNER	11725	2013.07.08	2014.07.08
Line impedance stabilization network	ESH2-Z5	R&S	0338.5219.53-100396-vj	2014.03.14	2015.03.13

Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.

TESTED BY: Daomen GALANZ
ENGINEER COMPANY NAME

REVIEWED BY: Jamessia ECMG
SENIOR ENGINEER COMPANY NAME



Conducted Emission Test Set-up -Front view

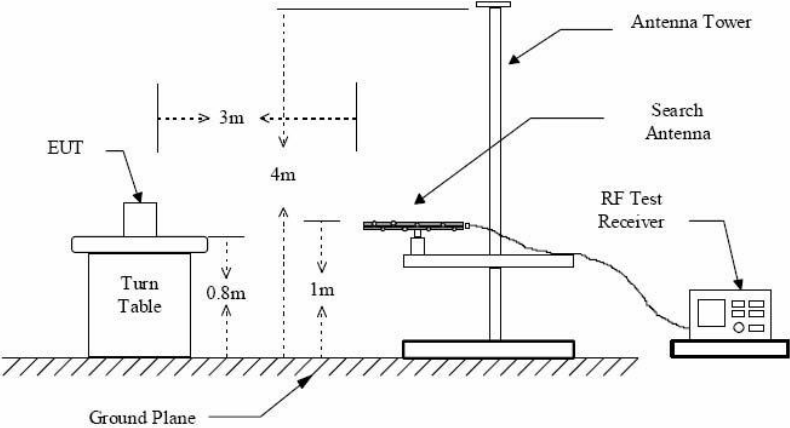
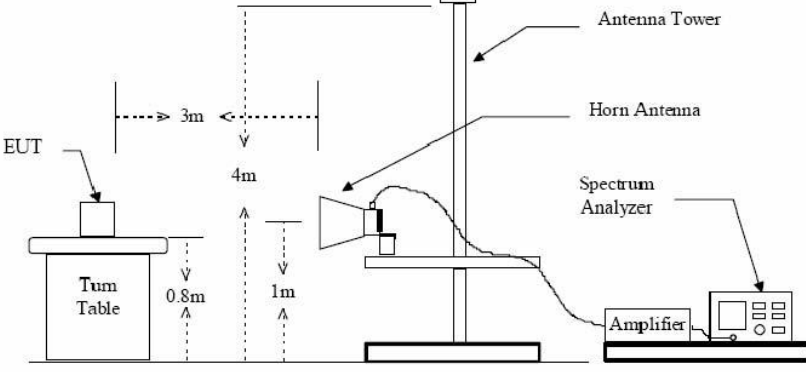


Conducted Emission Test Set-up -Rear view

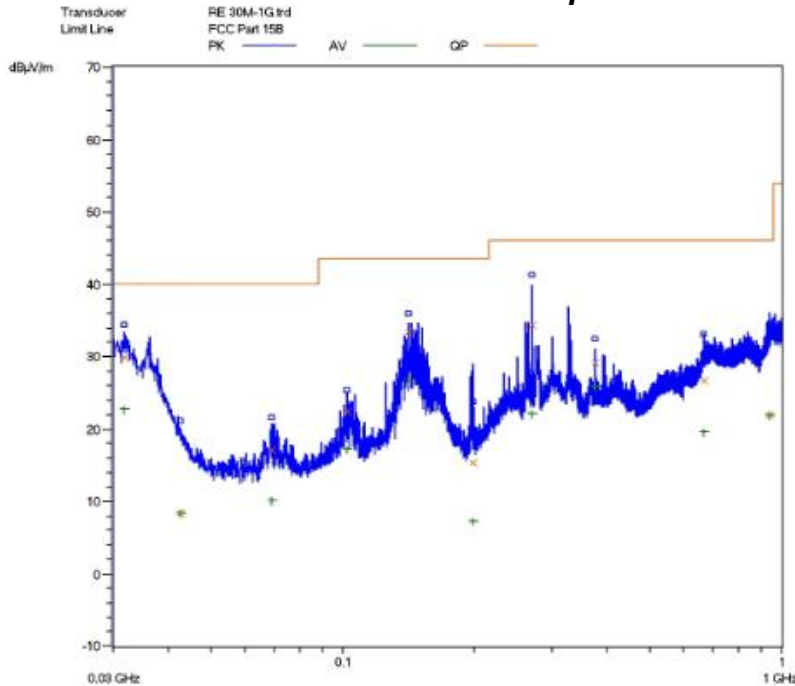
ATTACHMENT 2 – RADIATED EMISSION MEASUREMENT

CLIENT:	Grandstream Networks, Inc.	TEST STANDERD:	FCC Part 15,Subpart B, Section 15.109
MODEL NUMBERS:	GXV3674_HD_VF,GXV3674_FHD_VF	PRODUCT:	IP Camera
EUT MODEL:	GXV3674_FHD_VF	EUT DESIGNATION:	Home or Office
TEMPERATURE:	22°C	HUMIDITY:	47%RH
ATM PRESSURE:	103.0kPa	GROUNDING:	None
TESTED BY:	Daomen	DATE OF TEST:	May 20 th , 2014
TEST REFERENCE:	ANSI C63.4: 2009		
TEST PROCEDURE:	<p>The EUT was set up according to the guidelines of ANSI C63.4: 2009 for radiated emissions. An EMI receiver peak scan was made at the frequency measurement range (pre-scan) in an Anechoic chamber.signal discrimination was then performed and the significant peaks marked.these peaks were then quasi-peaked in the frequency range of 30 MHz to 1GHz and average and peak in the frequency range of 1GHz to 2GHz at an anechoic chamber.</p> <p>The following data lists the significant emission frequencies, measured levels, correction factors (including cable and antenna correction factors), and the corrected readings against the limits. Explanation of the Correction Factor are given as follows:</p> <p>FS= RA + AF + CF - AG</p> <p>Where: FS = Field Strength</p> <p>RA = Receiver Amplitude</p> <p>AF = Antenna Factor</p> <p>CF = Cable Attenuation Factor</p> <p>AG = Amplifier Gain</p>		
TEST MODE:	<p>Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available operation mode and power adapter. The following mode was selected for the final testing.</p> <p>For 9KHz to 30MHz: IP Camera and power adapter #1 was selected for the final testing.</p> <p>For 30 to 2,000MHz: IP Camera & PoE mode and power adapter #1 was selected for the final testing.</p>		
TESTED RANGE:	9KHz to 30MHz and 30 to 2000MHz		
TEST VOLTAGE:	AC 120V/60Hz		
RESULTS:	The EUT meet the requirements of test reference for radiated emissions.The test results relate only to the equipment under test provided by client.		

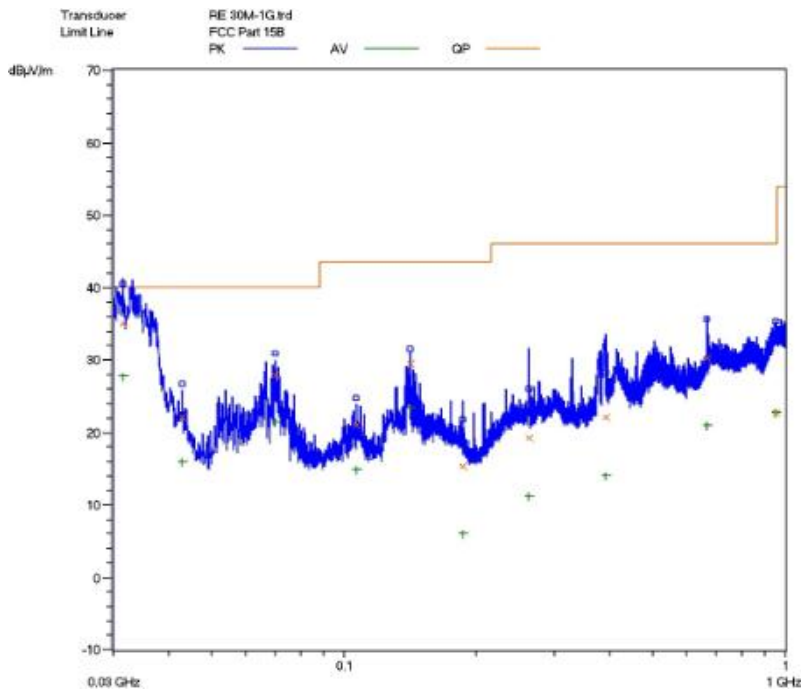
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<p>TEST SET-UP:</p>	<p>Figure 1 : Frequencies measured below 1 GHz configuration</p>  <p>Figure 2 : Frequencies measured above 1 GHz configuration</p> 
<p>CHANGES OR MODIFICATIONS:</p>	<p>There were no modifications installed by ECMG Electronic Technical Testing Corp (Shenzhen). Test personnel.</p>
<p>M. UNCERTAINTY:</p>	<p>Freq. $\pm 2 \times 10^{-7}$ x Center Freq., Amp ± 2.6 dB</p>

IP Camera Mode&Power Adapter #1:

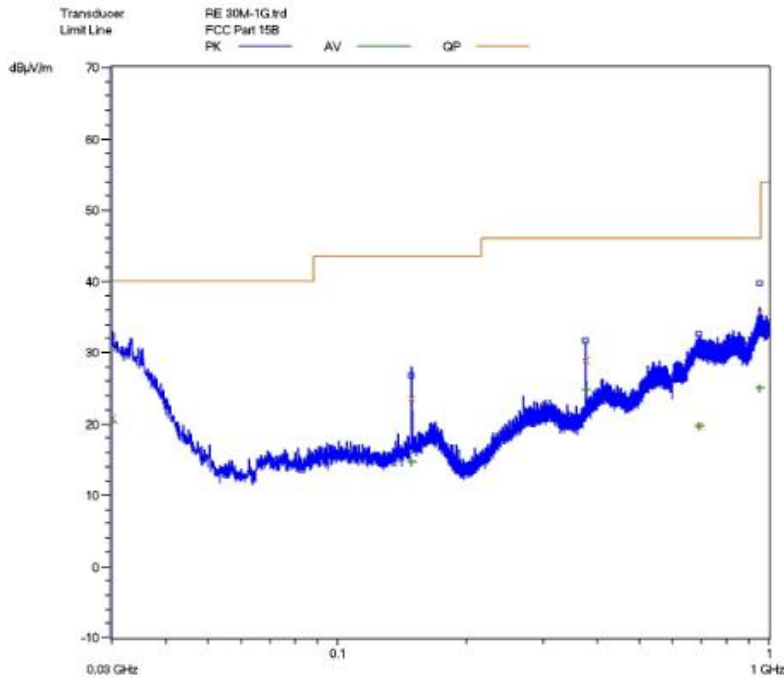


**Horizontal: Radiated Emission Test Plot
-(30-1000MHz)**

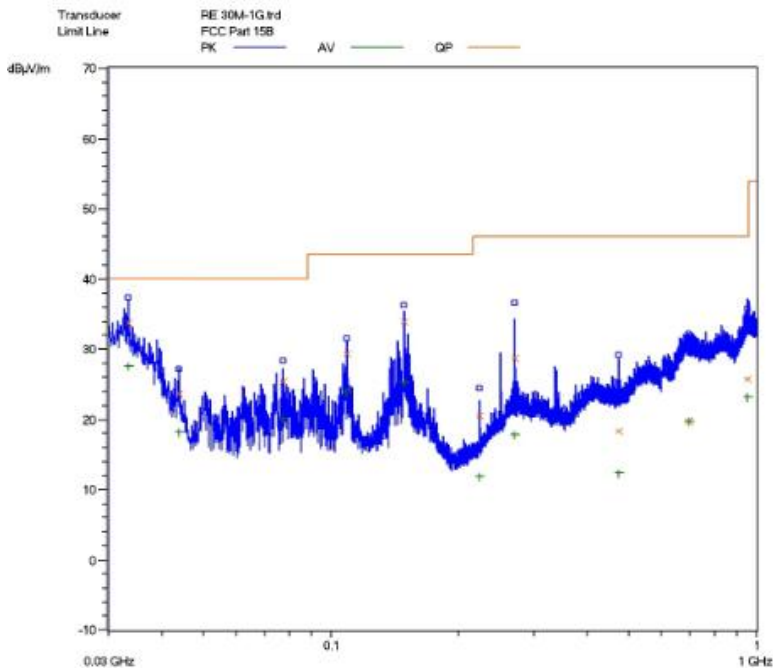


**Vertical: Radiated Emission Test Plot
(30-1000MHz)**

PoE Mode:



**Horizontal: Radiated Emission Test Plot
-(30-1000MHz)**



**Vertical: Radiated Emission Test Plot
-(30-1000MHz)**

Test Data:
9KHz to 30MHz:

Test No. #:	Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Reading Level QP (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	/	/	/	/	/	/	/
2	/	/	/	/	/	/	/
3	/	/	/	/	/	/	/
4	/	/	/	/	/	/	/
5	/	/	/	/	/	/	/
6	/	/	/	/	/	/	/

Note:

1. The field strength is calculated by adding the antenna factor, cable factor. The basic equation with a sample calculation is as follows:
Emission Level = Reading Level + Antenna Factor + Cable Loss.
2. The limits shown are based on quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz. the bandwidth of Test Receiver was set at 200Hz in frequency range of 9KHz to 150KHz, 9kHz in the frequency range of 150KHz to 30MHz.
3. All emission levels in the frequency range of 9KHz to 30MHz are 20dB below the official limits that are not reported.

Test Data:
IP Camera Mode&Power Adapter #1&Below 1GHz:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level QP (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
Horizontal							
31.680	0.13	22.1	/	7.57	29.8	40	-10.2
141.200	0.27	7.6	/	25.53	33.4	43.5	-10.1
270.000	0.40	12.5	/	21.5	34.4	46	-11.6
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
Vertical							
31.440	0.13	22.1	/	12.77	35.0	40	-5.0
69.680	0.19	5.7	/	22.11	28	40	-12.0
141.200	0.27	7.6	/	21.63	29.5	43.5	-14.0
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/

Note:

1. All readings are quasi-peak unless stated otherwise, using a QPA bandwidth of 120kHz, with a 60 s sweep time. A video filter was not used.
2. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Emission Level = Reading Level + Antenna Factor + Cable Loss - Preamplifier Factor.
3. The other emission levels are 20dB below the official limits that are not reported.

IP Camera Mode&Power Adapter #1&Above 1GHz:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamplifier Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
1.166	1.40	23.9	-33.6	53.97	45.67	74	-28.33	H
1.190	1.45	24.5	-33.6	54.37	46.72	74	-27.28	H
1.325	1.57	25.1	-33.6	55.29	48.36	74	-25.64	H
1.360	1.58	25.1	-33.6	54.2	47.28	74	-26.72	V
1.455	1.65	25.7	-33.6	55.64	49.39	74	-24.61	V
1.585	1.76	26.7	-33	54.55	50.01	74	-23.99	V
Average Measurement								
1.166	1.40	23.9	-33.6	47.04	38.74	54	-15.26	H
1.190	1.45	24.5	-33.6	49.75	42.10	54	-11.9	H
1.325	1.57	25.1	-33.6	46.94	40.01	54	-13.99	H
1.360	1.58	25.1	-33.6	46.58	39.66	54	-14.34	V
1.455	1.65	25.7	-33.6	48.97	42.72	54	-11.28	V
1.585	1.76	26.7	-33	44.64	40.10	54	-13.9	V

Note:

1. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Emission Level = Reading Level + Antenna Factor + Cable Loss - Preamplifier Factor.
2. The limits shown are based on Peak value and Average value detector above 1GHz, the bandwidth of Test Receiver was set at 1MHz above 1GHz.
3. The other emission levels are 20dB below the official limits that are not reported.

PoE Mode&Below 1GHz:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level QP (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
Horizontal							
30.000	0.12	23.2	/	-2.42	20.9	40	-19.1
375.040	0.51	13.9	/	14.49	28.9	46	-17.1
954.160	0.89	23.2	/	11.51	35.6	46	-10.4
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
Vertical							
33.440	0.13	20.9	/	12.67	33.7	40	-6.3
108.800	0.23	7.3	/	21.77	29.3	43.5	-14.2
148.480	0.27	8.6	/	25.13	34	43.5	-9.5
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/

Note:

1. All readings are quasi-peak unless stated otherwise, using a QPA bandwidth of 120kHz, with a 60 s sweep time. A video filter was not used.
2. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Emission Level =Reading Level + Antenna Factor + Cable Loss -Preamplifier Factor.
3. The other emission levels are 20dB below the official limits that are not reported.

PoE Mode&Above 1GHz:

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB)	Preamp Factor (dB)	Reading Level (dBuV/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarization (H/V)
Peak Measurement								
1.166	1.40	23.9	-33.6	55.5	47.20	74	-26.80	H
1.190	1.45	24.5	-33.6	57.01	49.36	74	-24.64	H
1.325	1.57	25.1	-33.6	56.03	49.10	74	-24.90	H
1.360	1.58	25.1	-33.6	59.66	52.74	74	-21.26	V
1.455	1.65	25.7	-33.6	56.61	50.36	74	-23.64	V
1.585	1.76	26.7	-33	53.2	48.66	74	-25.34	V
Average Measurement								
1.166	1.40	23.9	-33.6	51.01	42.71	54	-11.29	H
1.190	1.45	24.5	-33.6	47.47	39.82	54	-14.18	H
1.325	1.57	25.1	-33.6	45.6	38.67	54	-15.33	H
1.360	1.58	25.1	-33.6	48.09	41.17	54	-12.83	V
1.455	1.65	25.7	-33.6	46.61	40.36	54	-13.64	V
1.585	1.76	26.7	-33	42.93	38.39	54	-15.61	V

Note:

1. The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows: Emission Level = Reading Level + Antenna Factor + Cable Loss - Preamplifier Factor.
2. The limits shown are based on Peak value and Average value detector above 1GHz, the bandwidth of Test Receiver was set at 1MHz above 1GHz.
3. The other emission levels are 20dB below the official limits that are not reported.

Test Equipment List:

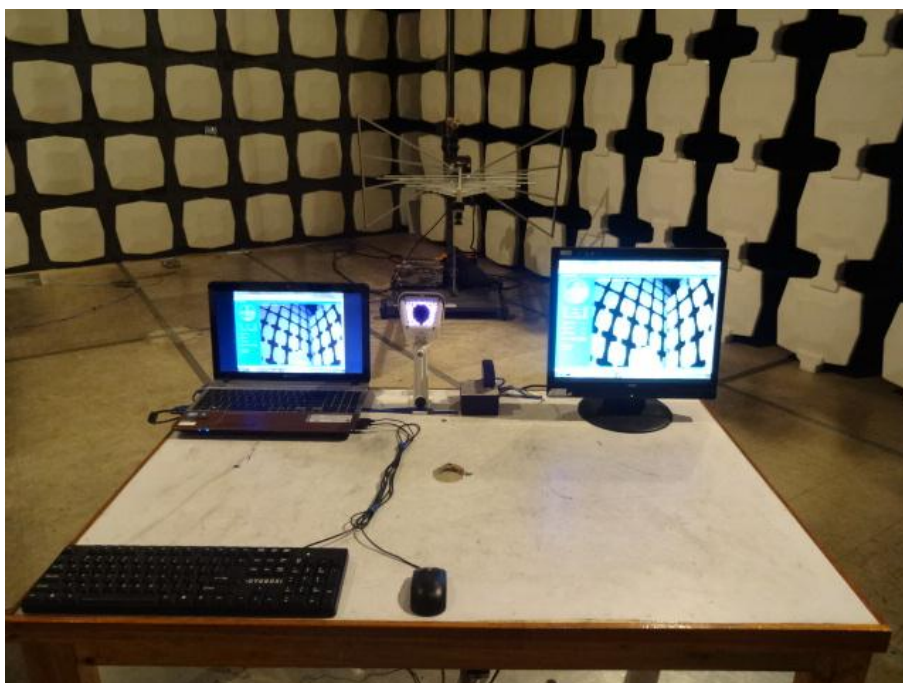
<i>Test Equipment</i>	<i>Model No.</i>	<i>Manufacturer</i>	<i>Serial No.</i>	<i>Last Cal.</i>	<i>Cal. Due</i>
<i>EMI Test Receiver</i>	<i>SMR4503</i>	<i>SCHAFFNER</i>	<i>11725</i>	<i>2013.07.08</i>	<i>2014.07.07</i>
<i>Double-ridged Wave guide horn</i>	<i>3115</i>	<i>ETS</i>	<i>6587</i>	<i>2013.08.02</i>	<i>2014.08.01</i>
<i>Microwave system amplifier</i>	<i>83017A</i>	<i>Agilent</i>	<i>MY39500438</i>	<i>2013.07.11</i>	<i>2014.07.10</i>
<i>Biconilog Antenna</i>	<i>3142C</i>	<i>ETS</i>	<i>00042672</i>	<i>2013.09.28</i>	<i>2014.09.27</i>
<i>Band-pass Filter</i>	<i>BRM50702</i>	<i>Micro-Tronic</i>	<i>S/N-030</i>	<i>2013.11.30</i>	<i>2014.11.29</i>
<i>Spectrum Analyzer</i>	<i>FSP30</i>	<i>R&S</i>	<i>100755</i>	<i>2013.11.30</i>	<i>2014.11.29</i>
<i>HF Loop Antenna</i>	<i>HLA6120</i>	<i>TESEQ</i>	<i>26348</i>	<i>2013-10-11</i>	<i>2014-10-12</i>
<i>Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.</i>					

TESTED BY: *Daomen* *GALANZ*
ENGINEER COMPANY NAME

REVIEWED BY: *Jamontino* *ECMG*
SENIOR ENGINEER COMPANY NAME



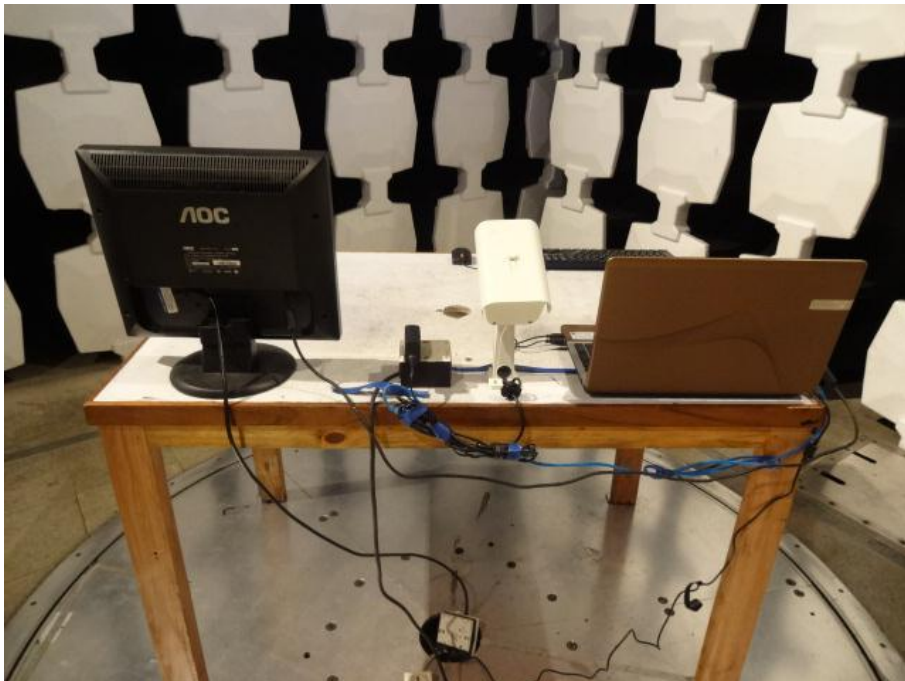
Radiated Emission Test Set-up(9KHz-30MHz)



Radiated Emission Test Set-up(30-1000MHz)



Radiated Emission Test Set-up(Above 1GHz)



Radiated Emission Test Set-up (Rear View)